

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the previous amendments and the following remarks.

Claims 10 and 11 are amended to address the issues raised in section "2" of the Official Action. Withdrawal of the claim objections is therefore respectfully requested.

Before turning to the remainder of the Official Action, a brief discussion of a substrate storage container according to disclosed embodiments is provided. A substrate storage container includes a container body 1, a door 2 for opening and closing the front of the container body 1, an attachment hole 11 formed in at least one of the container body and 1 the door 2, and an inner-pressure adjustment device 40 attached to the attachment hole 11 for adjusting the pressure inside the container body 1 closed with the door 2.

The inner-pressure adjustment device 40 includes an attachment cylinder 41 removably fitted to the attachment hole 11 and formed in cylindrical shape having a first opening at one end face and a second opening smaller than the first opening at an other end face, as illustrated in Fig. 4. As discussed in lines 14-16 of page 18 and lines 18-22 of page 19 of the specification, the attachment cylinder 41 is fitted to the attachment hole 11 by elastic deformation thereof without the use of an O-ring. As further discussed in lines 6-8 of page 16 of the specification and as illustrated in Fig 4, a hollow filter support structure 43 is fitted into the attachment cylinder 41 without any gap in the axial direction of the attachment cylinder from the first opening.

Shelf elements 2 for supporting substrates are formed on both interior sides of the container body 1. As illustrated in Fig. 11, at least part of the substrate contact area 22 of each shelf element 2 is formed with a low-frictional resistance portion 23 that is lower in frictional resistance than the non substrate contact area of the shelf element. As discussed in lines 19-23 of page 27 and as seen in Table 1 of the specification, the frictional resistance generated when a substrate is moved horizontally on the low-frictional resistance portion 23 is within the range of 0.15 N to 0.25 N.

Turning now to the remainder of the Official Action, independent Claim 8 is rejected as being unpatentable over U.S. Patent No. 6,732,877, hereinafter Wu, in view of U.S. Patent No. 6,032,802, hereinafter Ejima.

Amended Claim 8 recites a substrate storage container including a container body, a door for opening and closing the front of the container body, an attachment hole formed in at least one of the container body and the door, and an inner-pressure adjustment device attached to the attachment hole for adjusting the pressure inside the container body closed with the door. The inner-pressure adjustment device includes an elastic attachment cylinder removably fitted to the attachment hole by elastic deformation thereof without the use of an O-ring and is formed in cylindrical shape having a first opening at one end face and a second opening smaller than the first opening at an other end face. A hollow filter support structure is fitted into the attachment cylinder without any gap in the axial direction of the attachment cylinder from the first opening, and a filter is held inside the filter support structure. The attachment cylinder has a pair of juxtaposed flanges integrally formed on the outer periphery thereof and fitted and engaged to the

periphery of the attachment hole. The filter support structure is composed of a pair of support pieces arranged opposite to and attached to each other, each of the pair of support pieces having an approximately T-shaped or funnel-shaped section.

Wu discloses an air vent plug arrangement for a substrate storage container. The air vent plug arrangement is mounted at an air vent 80 of a bottom panel 81, and includes a mounting ring 1 having a top side edge 10 fastened to the air vent 80 and a plug body 2 having a plug cap 4 thereon and a filter 5 therein. As discussed in lines 11-16 of column 3 of Wu, the mounting ring 1 is fixedly fastened to the air vent 80 by, for example, ultrasonic welding, or is alternatively integral with the bottom panel 81 around the air vent 81.

Ejima discloses a filter arrangement wherein a filter 27 is mounted on a container body 13 by aligning engaging claws 30 of a cylindrical body 28 with cutouts 26A of an opening 26 in the container body 13, inserting the cylindrical body 28 into the opening 26, and then rotating the filter 27. Clearly, there is no elastic deformation of the cylindrical body 28. Additionally, as illustrated in Fig. 3, an O-ring gasket 33 provides the seal.

The Official Action appears to take the position that Wu's mounting ring 1 and plug cap 4 together constitute an attachment cylinder, that Wu's plug body 2 constitutes a filter support structure, and that the opening at the edge 10 of the mounting ring 1 constitutes a first opening of an attachment cylinder. The Official Action correctly notes that the mounting body 1 (and therefore the "attachment cylinder") is not removably fitted to the air vent 80. The Official Action goes on to take the position that it would have been obvious to employ Ejima's above-discussed

arrangement for attaching a filter to a container body in place of Wu's fixed fastening of a mounting body to an air vent.

However, even assuming some basis exists for the asserted combination, amended Claim 8 is clearly distinguishable. Specifically, amended Claim 8 recites that the elastic attachment cylinder is removably fitted to the attachment hole by elastic deformation thereof without the use of an O-ring. Clearly, the mounting body 1 of the Wu device, even after the modification proposed by the Examiner, is not removably fitted to the air vent 80 hole by elastic deformation thereof without the use of an O-ring. Indeed, as discussed above, in Ejima's arrangement, there is no elastic deformation and an O-ring is utilized.

Thus, neither Wu nor Ejima, alone or in combination, disclose, teaches or suggests a substrate storage container including a container body, a door for opening and closing the front of the container body, an attachment hole formed in at least one of the container body and the door, and an inner-pressure adjustment device including an elastic attachment cylinder removably fitted to the attachment hole by elastic deformation thereof without the use of an O-ring, in combination with the other features recited in amended Claim 8.

Moreover, amended Claim 8 is distinguishable for additional reasons. For example, amended Claim 8 recites that the hollow filter support structure is fitted into the attachment cylinder without any gap in the axial direction of the attachment cylinder from the first opening. By contrast, Wu's plug body 2 is not fitted into the mounting ring 1 without any gap in the axial direction of the mounting ring 1 from the opening at the edge 10 of the mounting ring 1. Indeed, it is clear from a careful study of Fig. 2 of Wu that it not possible to fit the plug body 2 into the mounting ring

10 from the opening at the edge 10 of the mounting ring 1 in view of the diameter of the flange 221 of the plug body 2 being larger than the diameter of the opening at the edge 10 of the mounting ring 1. Ejima does not cure this deficiency in Wu.

Thus, neither Wu nor Ejima, alone or in combination, disclose, teaches or suggests a substrate storage container including an elastic attachment formed in cylindrical shape and having a first opening at one end face and a second opening smaller than the first opening at an other end face, and a hollow filter support structure fitted into the attachment cylinder without any gap in the axial direction of the attachment cylinder from the first opening, in combination with the other features recited in amended Claim 8.

Claim 8 is therefore allowable over Wu in view of Ejima, and withdrawal of the rejection of Claim 8 is respectfully requested.

Claim 14, the other independent claim, is rejected as being unpatentable over Wu in view of U.S. Patent No. 5,960,960, hereinafter Yamamoto.

Amended Claim 14 recites a substrate storage container including a container body, a door for opening and closing the front of the container body, and an inner-pressure adjustment device attached to at least one of the container body and the door for adjusting the pressure inside the container body closed with the door. Shelf elements for supporting substrates are formed on both interior sides of the container body. At least part of the substrate contact area of each shelf element is formed with a low-frictional resistance portion that is lower in frictional resistance than the non substrate contact area of the shelf element. Each low-frictional resistance portion is formed by a texture transferred from a surface of a mold to a surface of the shelf element. The arithmetic average roughness of the low-frictional resistance portion is

specified to be 0.2a or above in terms of the average roughness (Ra). The frictional resistance generated when a substrate is moved horizontally on the low-frictional resistance portion is within the range of 0.15 N to 0.25 N.

In section "9" on page eight of the Official Action, the Examiner states that it would have been obvious to modify the material Wu's device to allow the substrates to be smoothly inserted/removed. However, there is no evidence in Wu or Yamamoto that the range of the frictional resistance generated when a substrate is moved horizontally on the low-frictional resistance portion of within 0.15 N to 0.25 N, as disclosed in the specification and now claimed, would have been obvious to an ordinarily skilled artisan.

Amended Claim 14 is therefore allowable over Wu in view of Yamamoto, and withdrawal of the rejection of Claim 14 is therefore respectfully requested.

The dependent claims are allowable at least by virtue of their dependence from allowable independent claims. Thus, a detailed discussion of the additional distinguishing features recited in the dependent claims is not set forth at this time.

Early and favorable action with respect to this application is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful

in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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